



# SOUTHWEST RESEARCH INSTITUTE®

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Institute Calibration Laboratory  
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Calibration Laboratory  
Certificate #0972-01

## Certificate of Calibration

**Cost Center / Customer:** DIV20 / DON BANNON

**Mail Stop:** B57

**Manufacturer/Model:** FISHER SCIENTIFIC / 15-078-39

**Description:** DIGITAL THERMOMETER

**Serial Number:** 41523645

**Asset Number:** 011675

**Procedure:** DIGITAL THERMOMETERS/MODULES - 28 JAN 11

**Work Order:** 303102553

**Date Issued:** 14-Jul-2011

**Date Calibrated:** 14-Jul-2011

**\* Date Due :** 14-Jul-2012

**\*\* Results:** FOUND-LEFT

**Temperature:** 72.0 °F

**Humidity:** 45 %RH

**Barometer:** N/A

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 2005, ANSI/NCSL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

\*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. \*\*Data type found in this certificate or attached measurement report must be interpreted as: Found-left - adjustment and/or repair was not performed, As-found - data is before unit is adjusted and/or repaired, As-left - data is after adjusted and/or repaired was performed. The customer has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance.

Measurement uncertainty calculated in accordance with the method described in the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM), for a confidence level of approximately 95 percent using a coverage factor of  $k=2$ .

**Remarks:** None

### Standards Used

<u>Asset #</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
004164	FLUKE	5500A/SC	CALIBRATOR	19-May-2011	19-May-2012

  
Walt Hill

Laboratory Manager

  
Bob Trollinger

Metrology Technician

Southwest Research Institute  
Calibration Laboratory  
Measurement Report

Work Order:	303102553	Mfr:	Fisher Scientific	Technician:	blt
Asset No:	011675	Model:	15-078-39	Type Data:	Found-left
Serial No:	41523645	Type:	Temperature Meter	Cal Date:	14-Jul-11

Remarks:

Function/Range	Test Point	TI Reading	Difference	± Limit	± Uncertainty	Result	% Limit
T1 Type K	°F	°F	°F	°F	°F		
	-58	-57.3	0.7	1.7	0.44	Pass	42%
	310	311	1	2.4	1.1	Pass	41%
	1025	1026	1	4.6	1.1	Pass	22%
	1740	1740	0	6.7	1.1	Pass	0%
	1900	1901	1	7.2	1.3	Pass	14%
	°C	°C	°C	°C	°C		
	-50	-49.7	0.3	1.2	0.23	Pass	26%
	190	189	-1	1.6	0.66	Pass	38%
	575	576	1	2.7	0.66	Pass	37%
	960	960	0	3.9	0.66	Pass	0%
	1200	1201	1	4.6	1.05	Pass	22%
T2 Type K	°F	°F	°F	°F	°F		
	-58	-58.0	0.0	1.7	0.44	Pass	0%
	310	310	0	2.4	1.1	Pass	0%
	1025	1026	1	4.6	1.1	Pass	22%
	1740	1739	1	6.7	1.1	Pass	15%
	1900	1900	0	7.2	1.3	Pass	0%
	°C	°C	°C	°C	°C		
	-50	-50.1	-0.1	1.2	0.23	Pass	9%
	190	189	-1	1.6	0.66	Pass	64%
	575	576	1	2.7	0.66	Pass	37%
	960	959	-1	3.9	0.66	Pass	26%
	1200	1200	0	4.6	1.05	Pass	0%
Difference	°F	°F	°F	°F	°F		
	T1-T2	0	0.0	0.0	1.5	0.06	Pass 0%
T1-T2	°C	°C	°C	°C	°C		
	0	0.0	0.0	1.0	0.06	Pass	0%

END OF REPORT